Lampiran 1. Hasil Pengukuran pH

Temperatur Pengukuran	Asetat awal		Asetat setelah adsorbsi			Range PH
	PH	Rata^2	Waktu kontak (jam)	PH	Rata^2	
30,2	2,08 2,09	2,085	$1\frac{1}{2}$	2,29	2,29	0,205
30,08	2,33 2,34	2,335	$\frac{1}{2}$	2,52 2,53 2,54	2,53	0,195
			$1\frac{1}{2}$	2,56 2,57	2,65	0,215
32,6	2,37 2,38	2,375	$1\frac{1}{2}$	2,56 2,57	2,565	0,19
31,0	2,34 2,35	2,345	$1\frac{1}{2}$	2,53	2,53	0,185
31,2 31,3	1,32 1,32 1,30	1,313	1	1,91 1,90 1,89 1,88	1,895	0,582

Asetat : 0,98 N

HCl : 0,1 N

Lampiran 2. Perhitungan Jumlah Asam Asetat Teradsorbsi Oleh Zeolit Tanpa Aktivasi pada Konsentrasi Asam Asetat 0,96504N

Asetat Sebelum Adsorbsi

NaOH dibutuhkan (0,19867 N)	rata-rata (ml)	Konsentrasi Asetat sesungguhnya (N)
0 - 48,5 : 48,5 0 - 48,6 : 48,6 0 - 49,4 : 48,4 0 - 48,7 : 48,7	48,575	0,96504

Asetat Setelah Adsorbsi

NaOH dibutuhkan	rata-rata (ml)	Konsentrasi Asetat setelah adsorbsi(N)
0 - 47,3 : 47,3 0 - 47,5 : 47,5 0 - 47,7 : 47,7 0 - 47,5 : 47,5	47,475	0,94318

Range konsentrasi = 0,02186 N

Range NaOH = 48,575 - 47,475 = 1,1 ml

Asetat teradsorbsi =

$$= \frac{1,1}{1000} \text{ lt. } 0,19867 \text{ mol/lt. } 60,05 \text{ gr/mol}$$

$$= 13,123146 \cdot 10^{-3} \text{ gr / 80 ml}$$

$$= 0,164039 \cdot 10^{-3} \text{ gr/ml}$$

$$= 164,039 \text{ ppm}$$

$$= 2,732 \cdot 10^{-3} \text{ N}$$

Lampiran 3. Perhitungan Pengukuran Volume Pori

3.1. Zeolit Tanpa Aktivasi

Sebelum Adsorbsi

Berat Piknometer Kosong = 21,16030

Berat Piknometer + Air = 46,3644 : a

Berat Piknometer + Air + Zeolit = 46,5515 : b

$$\rho = \frac{25,2041}{25,3221}$$

$$= 0,99534 gr/cm^3$$

t = 31 °C

- Volume pori $= \frac{(a + 0,5) - b}{\rho}$

$$= \frac{(46,3644 + 0,5) - 46,5513}{0,99534}$$

$$= \frac{0,3131}{0,99534}$$

$$= 0,31456\ cm^3$$

- Volume pori $= \frac{46,8524 - 46,5392}{0,99534}$

$$= \frac{0,3132}{0,99534}$$

$$= 0,31466\ cm^3$$

Rata - rata = $0,31461\ cm^3$

Setelah Adsorbsi

$$- \text{Volume pori} = \frac{46,8679 - 46,5585}{0,99534}$$

$$= \frac{0,3094}{0,99534}$$

$$= 0,31085 \text{ cm}^3$$

$$- \text{Volume pori} = \frac{46,8598 - 46,5533}{0,99534}$$

$$= \frac{0,3065}{0,99534}$$

$$= 0,30793 \text{ cm}^3$$

$$\text{Rata - rata} = 0,30939 \text{ cm}^3$$

3.2. Zeolit Aktivasi

Sebelum Adsorbsi

$$\text{- Volume pori} = \frac{46,8650 - 46,5418}{0,99534}$$

$$= \frac{0,3232}{0,99534}$$

$$= 0,32471 \text{ cm}^3$$

$$\text{- Volume pori} = \frac{46,8667 - 46,5426}{0,99534}$$

$$= \frac{0,3241}{0,99534}$$

$$= 0,32562 \text{ cm}^3$$

$$\text{Rata - rata} = 0,325165 \text{ cm}^3$$

Setelah Adsorbsi

$$\text{- Volume pori} = \frac{46,8330 - 46,5173}{0,99534}$$

$$= \frac{0,3157}{0,99534}$$

$$= 0,31718 \text{ cm}^3$$

$$\text{- Volume pori} = \frac{46,8589 - 46,5400}{0,99534}$$

$$= \frac{0,3189}{0,99534}$$

$$= 0,32039 \text{ cm}^3$$

$$\text{Rata - rata} = 0,31878 \text{ cm}^3$$

3.3. Karbon Aktif

Sebelum Adsorbsi

- Volume pori = $\frac{46,9090 - 46,3754}{0,99534}$

= $\frac{0,5336}{0,99534}$

= 0,53609 cm^3

- Volume pori = $\frac{46,9166 - 46,3795}{0,99534}$

= 0,53961 cm^3

Rata - rata = 0,53785 cm^3

Setelah Adsorbsi

- Volume pori = $\frac{46,7869 - 46,4262}{0,99534}$

= $\frac{0,3607}{0,99534}$

= 0,36239 cm^3

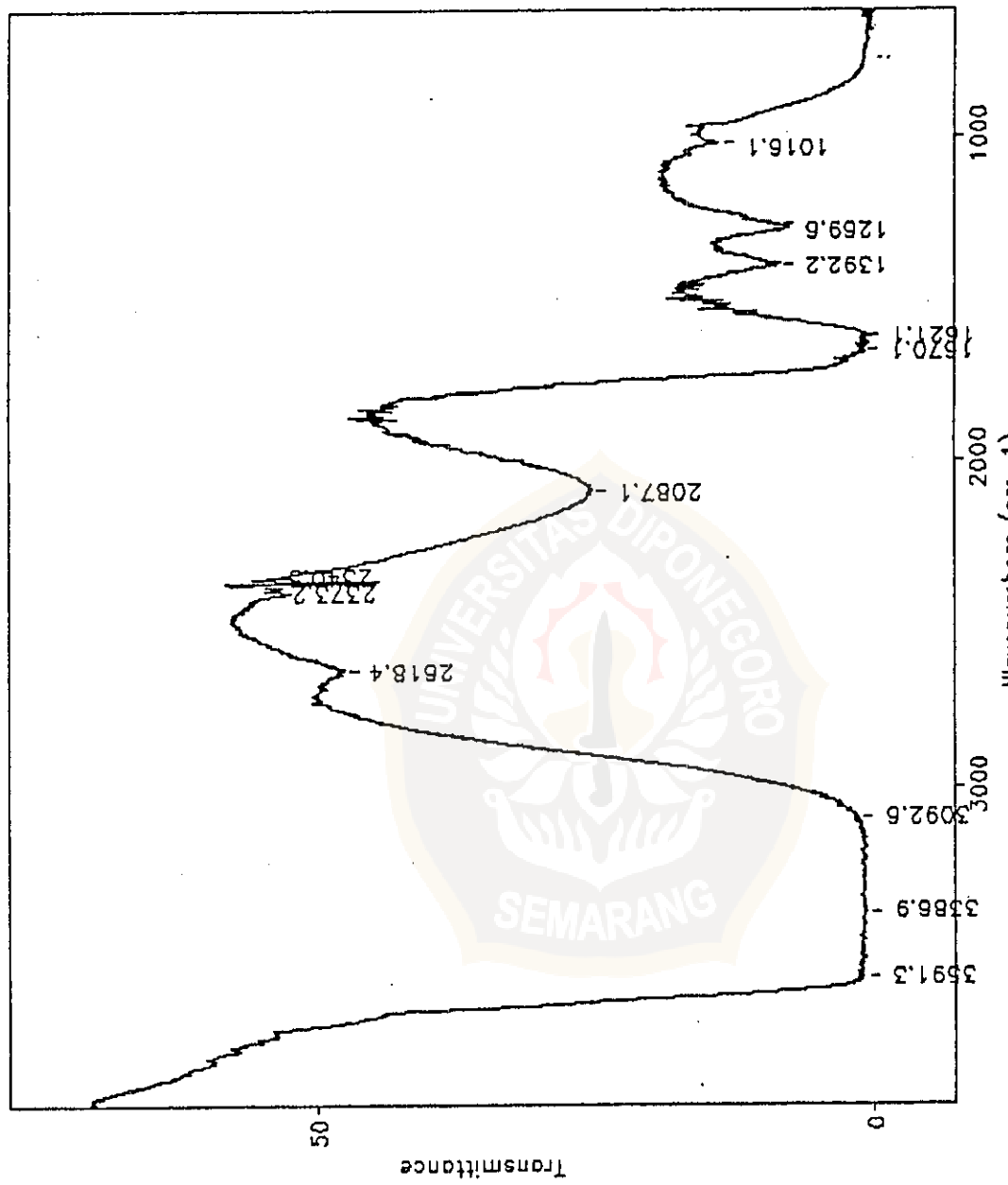
- Volume pori = $\frac{46,7899 - 46,4311}{0,99534}$

= $\frac{0,3588}{0,99534}$

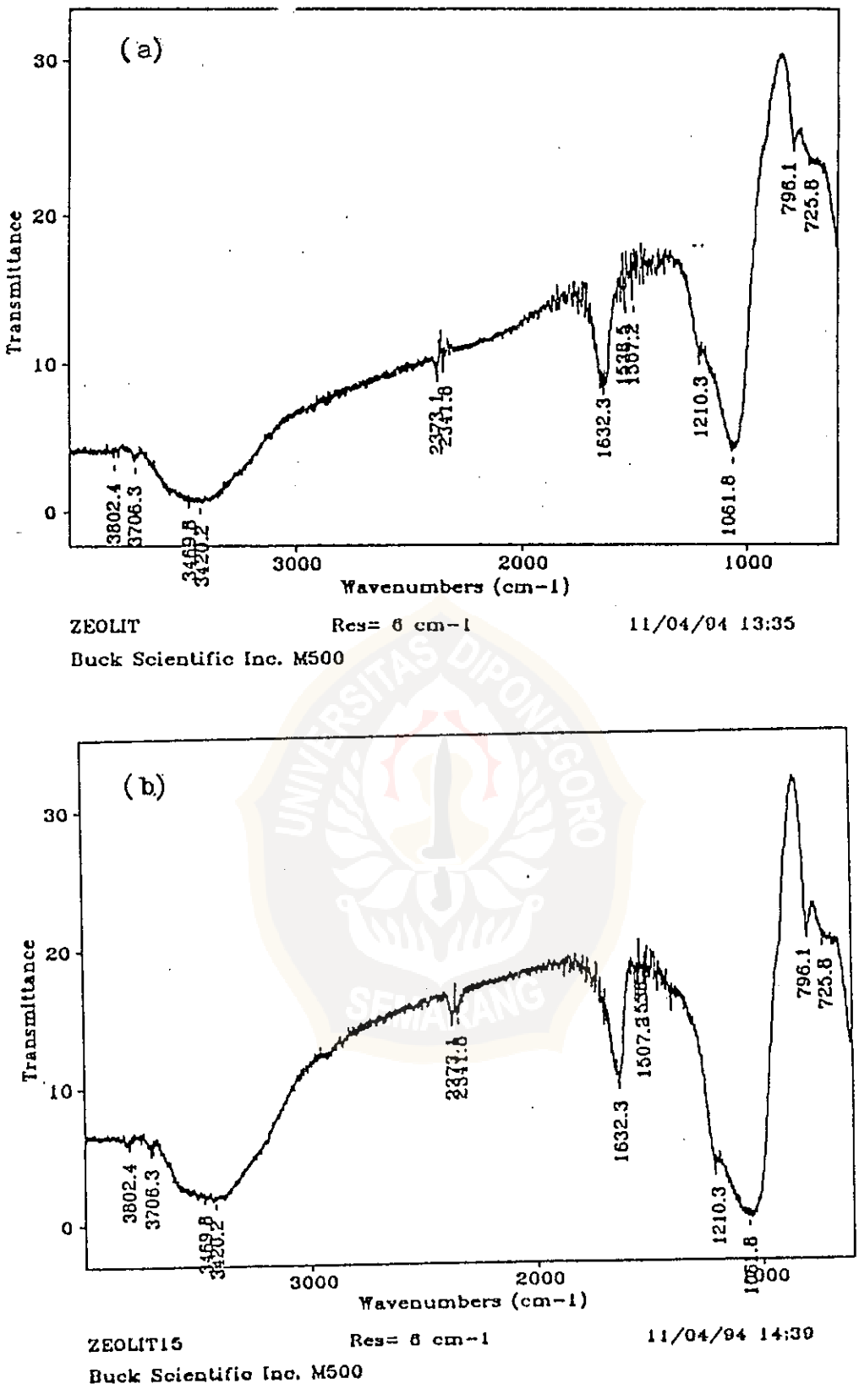
= 0,36048 cm^3

Rata - rata = 0,36143 cm^3

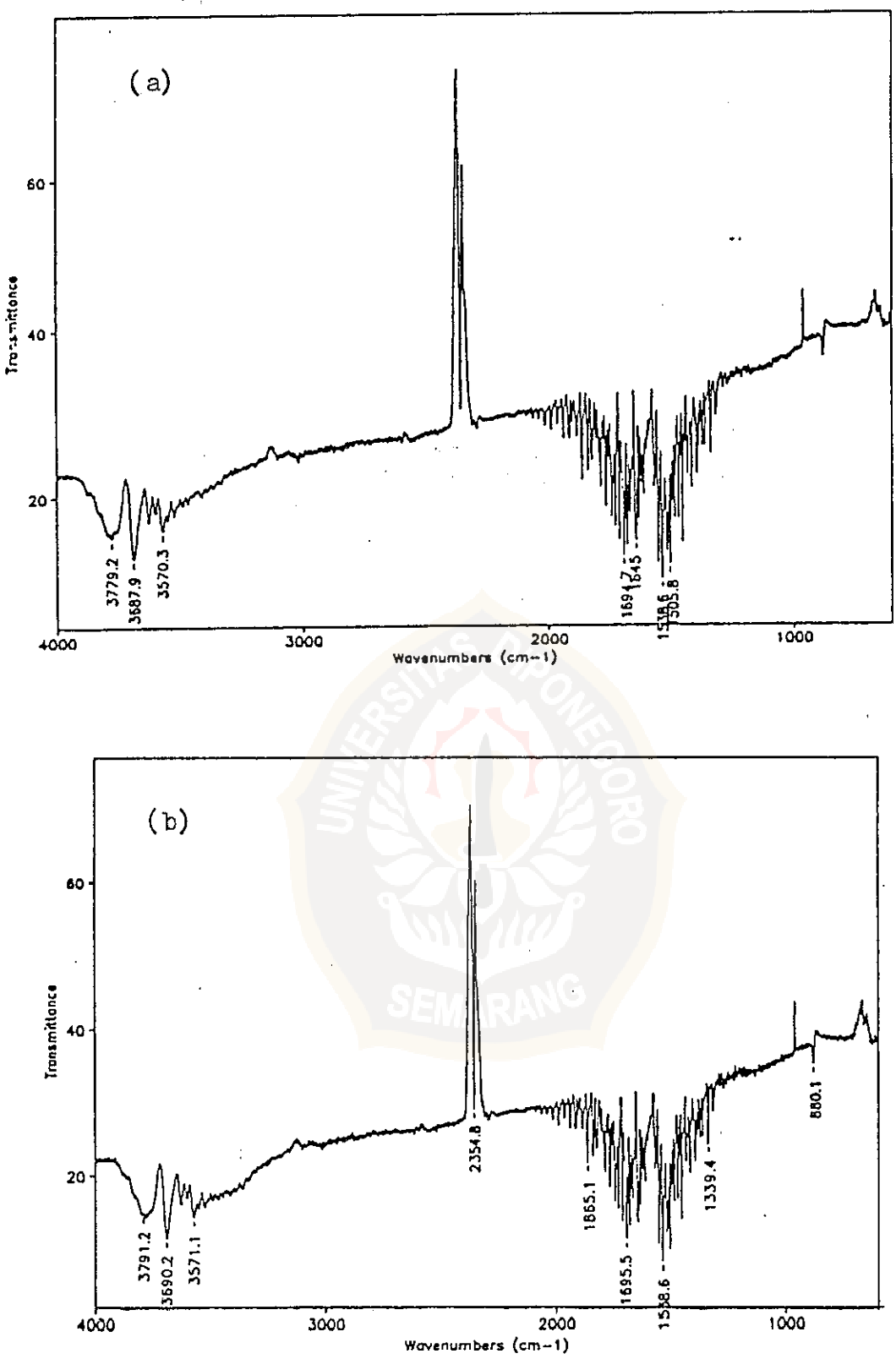
Lampiran 4. Hasil Spektra IR



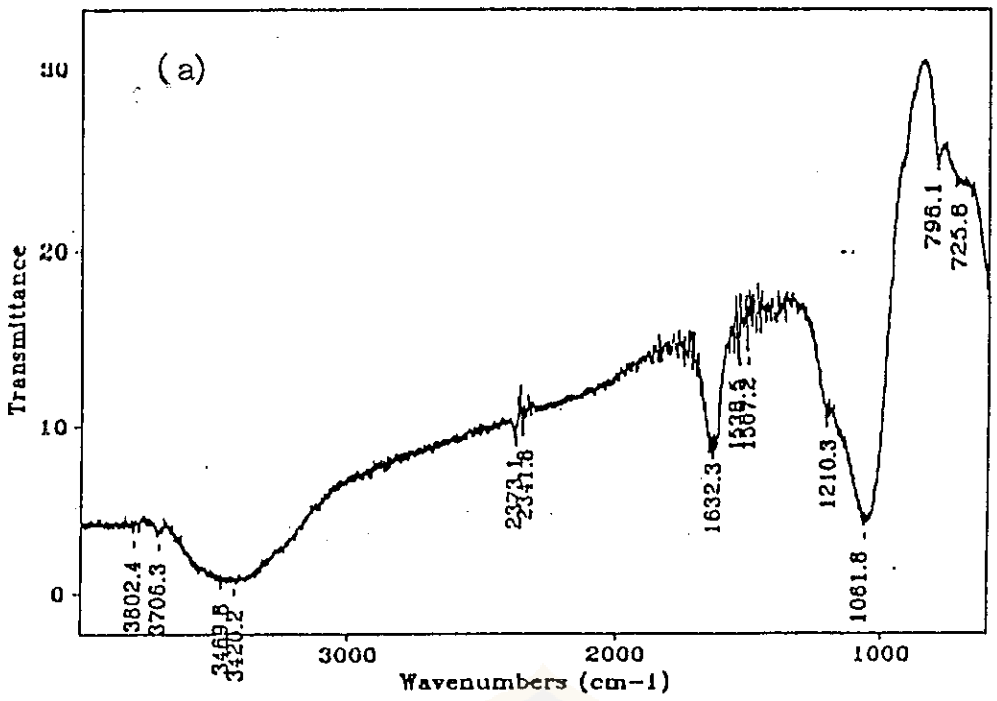
Gambar 4.1 Spektra asam asetat glasial

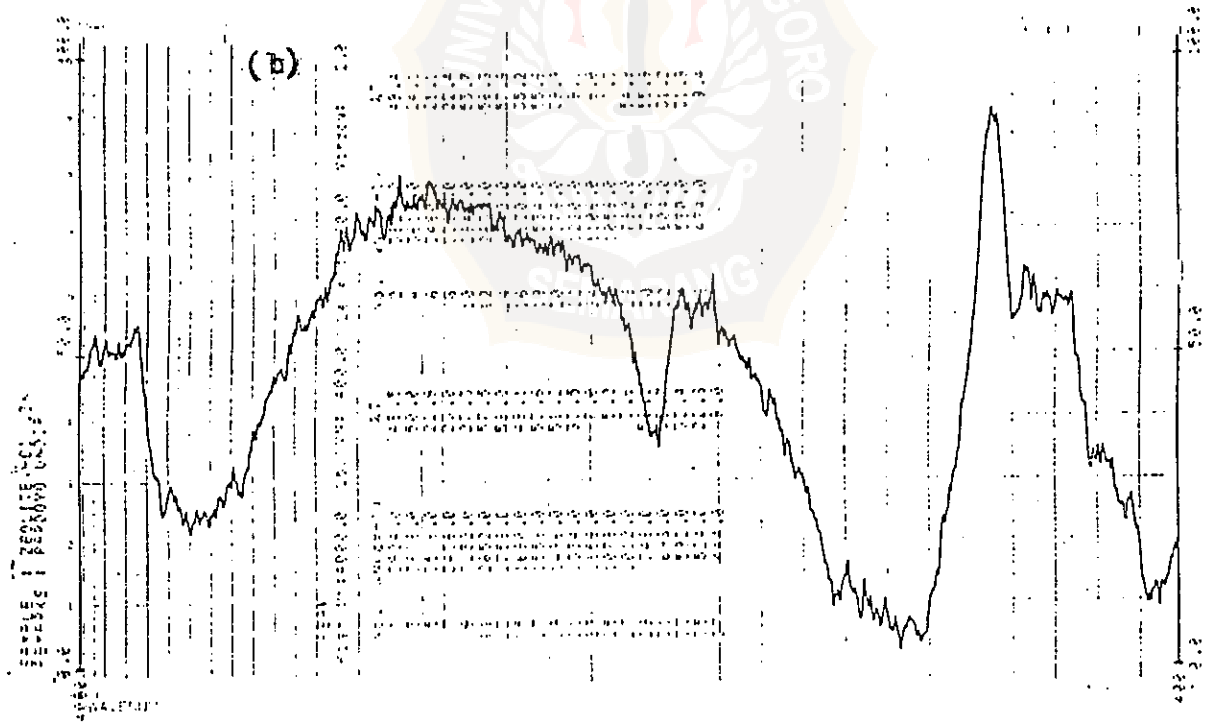


Gambar 4.2 Spektra zeolit sebelum adsorbsi (a) dan setelah adsorbsi dengan asam asetat (b)



Gambar 4.3 Spektra karbon aktif sebelum adsorbsi (a) dan setelah adsorbsi dengan asam asetat (b)





Gambar 4.4 Spektra zeolit sebelum adsorbsi (a) dan setelah adsorbsi dengan asam klorida (b)

Lampiran 5. Hasil Pengukuran dengan SSA

METHOD: FLAME
SIGNAL: AA
INTEG. TIME: 0.8sec
CALIBRATION TYPE: Non Linear
EXPANSION: 0.35
PRINT CALIB: Yes
READ DELAY: 01sec

LAMP CURRENT: 12mA
REPLICATES: 01
TECHNIQUE: Flame
ENERGY: 73

Standard1: 0.75
Standard2: 3.00
Standard3: 6.00
Reslope: 3.00

Calibration Restarted
STANDARD 1:

(AA) ABSORBANCE:
0.202

CONC. (STD APPLIED):
0.75
CORR. COEF.: 1.0000 SLOPE: 0.2699

STANDARD 2:

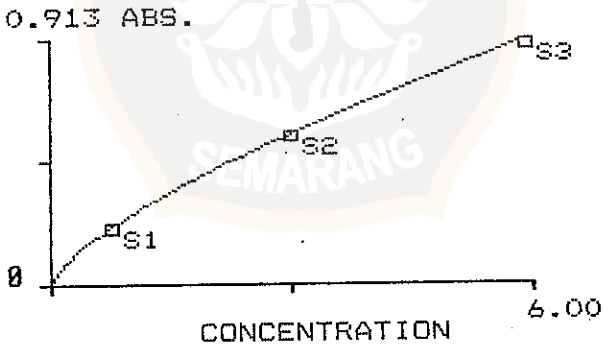
(AA) CONCENTRATION:
2.04

CONC. (STD APPLIED):
3.00
CORR. COEF.: 1.0000 SLOPE: 0.3204

STANDARD 3:

(AA) CONCENTRATION:
9.84

CONC. (STD APPLIED):
6.00
CORR. COEF.: 1.0000 SLOPE: 0.4832



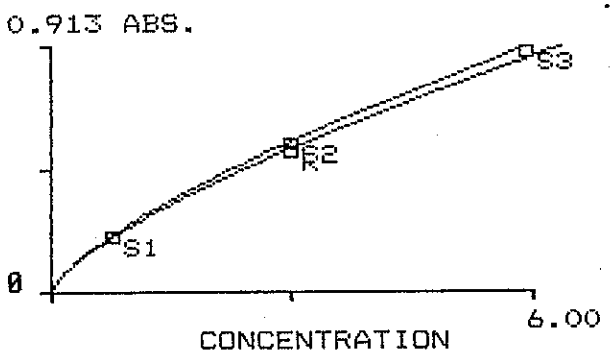
(AA) CONCENTRATION:
0.75

(AA) CONCENTRATION:
2.81

RESLOPE:

(AA) CONCENTRATION:
2.80

CONC. (STD APPLIED):
3.00
CORR. COEF.: 1.0000 SLOPE: 0.4832



(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
7.78

(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
8.90

(AA) CONCENTRATION:
2.34

(AA) CONCENTRATION:
3.33

(AA) CONCENTRATION:
4.55

(AA) CONCENTRATION:
5.86

(AA) CONCENTRATION:
0.20

METHOD: FLAME
SIGNAL: AA
INTEG. TIME: 0.10sec
CALIBRATION TYPE: Non Linear
EXPANSION: 1.00
PRINT CALIB: Yes
READ DELAY: 00sec

LAMP CURRENT: 12mA
REPLICATES: 01
TECHNIQUE: Flame
ENERGY: 73

Standard1: 0.75
Standard2: 3.00
Standard3: 6.00
Reslope: 3.00

STANDARD 1:

(AA) ABSORBANCE:
0.195

CONC. (STD APPLIED):
0.75
CORR. COEF.: 1.0000 SLOPE: 0.2602

STANDARD 2:

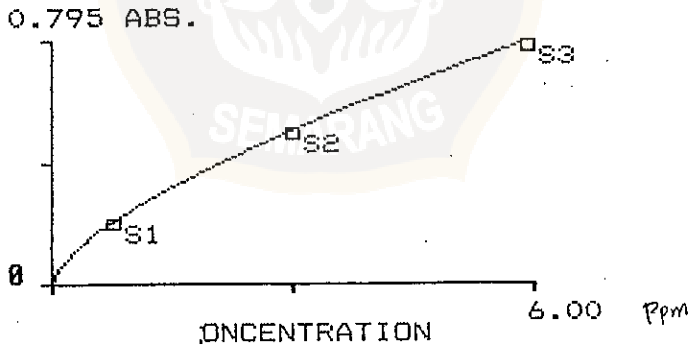
(AA) CONCENTRATION:
1.92

CONC. (STD APPLIED):
3.00
CORR. COEF.: 1.0000 SLOPE: 0.3207

STANDARD 3:

(AA) CONCENTRATION:
10.73

CONC. (STD APPLIED):
6.00
CORR. COEF.: 1.0000 SLOPE: 0.5221



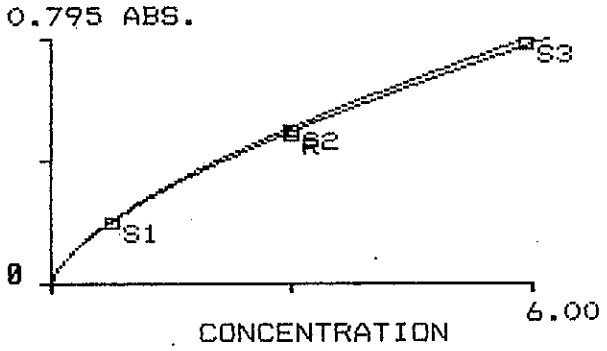
(AA) CONCENTRATION:
0.66

(AA) CONCENTRATION:
0.22

RESLOPE:

(AA) CONCENTRATION:
2.87

CONC. (STD APPLIED):
3.00
CORR. COEF.: 1.0000 SLOPE: 0.5221



(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
13.67

(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
12.63

(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
12.97

(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
9.42

(AA) CONCENTRATION:

ERR 8: Sample conc. > than highest standard.
11.15